

LISTING OF THE CLAIMS

A listing of all claims and their current status in accordance with 37 C.F.R. § 1.121(c) is provided below.

1. (previously presented) A slurry polymerization process in which solid polyolefin particles are formed in a fluid slurry, the process comprising:

introducing an olefin monomer to a loop reaction zone through a plurality of monomer feeds;

introducing a catalyst to the loop reaction zone, the catalyst being capable of polymerizing the olefin monomer;

polymerizing the olefin monomer to form a fluid slurry containing solid polyolefin particles; and

withdrawing a portion of the fluid slurry as an intermediate product at a slurry withdrawal location in the loop reaction zone where the intermediate product contains a higher concentration of the solid polyolefin particles than an average concentration of the solid polyolefin particles the fluid slurry in the loop reaction zone.

2. (previously presented) A process according to claim 1 wherein the portion of the fluid slurry is withdrawn through a plurality of catalyst feeds.

3. (previously presented) A process according to claim 1 wherein the portion of the fluid slurry is withdrawn through a plurality of product take-offs.

4. (previously presented) A process according to claim 3 wherein the monomer feeds and the product take-offs are substantially symmetrically arranged around the loop reaction zone.
5. (previously presented) A process according to claim 1 wherein a range of concentration of the olefin monomer within the loop reaction zone is 1.05% or smaller.
6. (previously presented) A process according to claim 1 wherein the plurality of monomer feeds comprises at least one monomer feed per 800 feet of reactor length.
7. (previously presented) A process according to claim 1 wherein the plurality of monomer feeds comprises at least one monomer feed per 18,000 gallons of reactor volume.
8. (previously presented) A process according to claim 1 wherein the fluid slurry has a plurality of monomer concentrations around the loop reaction zone, and the standard deviation of the plurality of monomer concentrations is equal to or less than 0.4%.
9. (previously presented) A process according to claim 1 comprising measuring the concentration of the olefin monomer in the withdrawn portion of the fluid slurry, and adjusting the introduction of the olefin monomer in response to the measured concentration.

10. (original) A process according to claim 9, wherein the introduction of the olefin monomer is adjusted so that a different amount of the olefin monomer is fed at one monomer feed than the amount of the olefin monomer fed at another monomer feed.

11. (previously presented) A process according to claim 1 wherein the loop reaction zone has a volume of more than 20,000 gallons.

12. (previously presented) A process according to claim 1 wherein the loop reaction zone has a volume of more than 30,000 gallons.

13. (previously presented) A process according to claim 1 wherein the loop reaction zone has a volume of 35,000 gallons or more.

14. (previously presented) A process according to claim 1 wherein each of the monomer fees is separately controlled.

15. (previously presented) A process according to claim 1 wherein the solid polyolefin particles have a molecular weight distribution that is unimodal.

16-20. (cancelled)

21. (previously presented) A process according to claim 1, comprising introducing a liquid diluent to the loop reaction zone.

22. (previously presented) A process according to claim 21, wherein the polyolefin particles comprise polyethylene.

23. (previously presented) A process according to claim 1, wherein the polyolefin particles comprise polypropylene.

24. (previously presented) A slurry polymerization process in which solid polyolefin particles are formed in a fluid slurry, the process comprising:

introducing an olefin monomer to a loop reaction zone through a plurality of monomer feeds;

introducing a catalyst to the loop reaction zone, the catalyst being capable of polymerizing the olefin monomer;

polymerizing the olefin monomer to form a fluid slurry containing solid polyolefin particles; and

withdrawing a portion of the fluid slurry as an intermediate product through a plurality of product take-offs, wherein the monomer feeds and the product take-offs are arranged substantially symmetrically about the loop reactor.

25. (previously presented) A process according to claim 24, comprising introducing a liquid diluent to the loop reaction zone.

26. (previously presented) A process according to claim 25, wherein the polyolefin particles comprise polyethylene.

27. (previously presented) A process according to claim 24, wherein the polyolefin particles comprise polypropylene.